

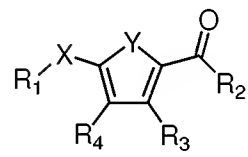
29. (Previously presented) The method of claim 24 wherein the subject is a subject having or at risk of having a cancer expressing a cancer antigen.

30-44. (Canceled)

45. (Previously presented) The method of claim 24 wherein the subject is a subject having or at risk of having an infectious disease.

46-67. (Canceled)

68. (Currently Amended) A method of enhancing MHC Class II catalyzed peptide exchange comprising contacting a cell bearing a MHC Class II molecule with a compound ~~of claim 1~~ in the presence of a peptide that binds MHC class II, wherein the compound is of the formula:



wherein,

R₁ is alkyl, aryl, or heterocyclyl;

R₂ is H, alkyl, aryl, heterocyclyl, OR₃, or N(R₃)₂;

R₃ is H, alkyl, aryl, or heterocyclyl;

R₄ is H, CN, halogen, CF₃, CO₂R₃, or C(O)N(R₃)₂;

X is S, SO₂, O, or NR₃; and

Y is S, O, or NR₃.

69-113. (Canceled)

114. (New) The method of claim 24, wherein

R₁ is alkyl, aryl, or heterocyclyl;

R₂ is H, aryl, heterocyclyl, OR₃, or N(R₃)₂;

R₃ is aryl or heterocyclyl;

R₄ is H, CN, halogen, CF₃, or C(O)N(R₃)₂;

X is S, SO₂, or O; and

Y is S or O.

115. (New) The method of claim 24, wherein

R₁ is alkyl, aryl, or heterocyclyl;

R₂ is H, OR₃, or N(R₃)₂;

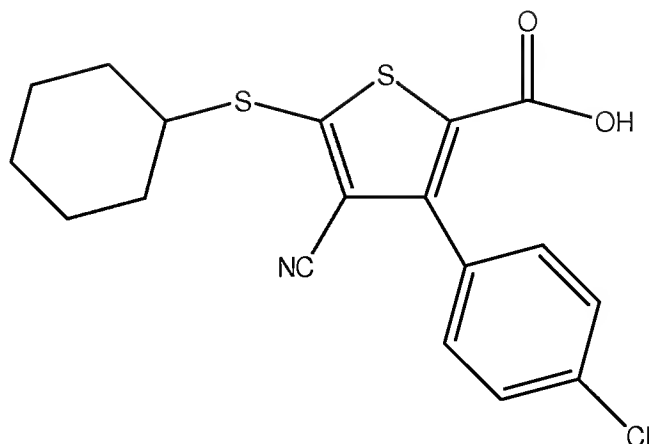
R₃ is aryl or heterocyclyl;

R₄ is H, CN, F, Cl, Br, or CF₃;

X is S; and

Y is S.

116. (New) The method of claim 24, wherein the compound is represented by the formula:



117. (New) The method of claim 24, further comprising administering an antigen to the subject.

118. (New) The method of claim 117, wherein the antigen is a cancer antigen.

119. (New) The method of claim 117, wherein the antigen is a viral antigen, a bacterial antigen, a fungal antigen or a parasitic antigen.

120. (New) The method of claim 68, wherein

R₁ is alkyl, aryl, or heterocyclyl;

R₂ is H, aryl, heterocyclyl, OR₃, or N(R₃)₂;

R₃ is aryl or heterocyclyl;

R₄ is H, CN, halogen, CF₃, or C(O)N(R₃)₂;

X is S, SO₂, or O; and

Y is S or O.

121. (New) The method of claim 68, wherein

R₁ is alkyl, aryl, or heterocyclyl;

R₂ is H, OR₃, or N(R₃)₂;

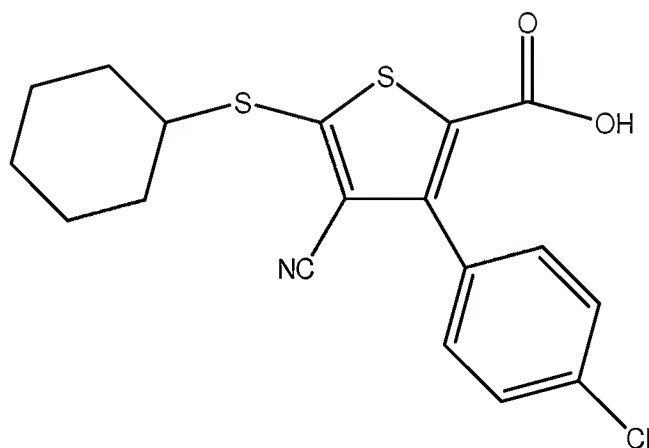
R₃ is aryl or heterocyclyl;

R₄ is H, CN, F, Cl, Br, or CF₃;

X is S; and

Y is S.

122. (New) The method of claim 68, wherein the compound is represented by the formula:



123. (New) The method of claim 68, further comprising administering an antigen to the subject.

124. (New) The method of claim 123, wherein the antigen is a cancer antigen.

125. (New) The method of claim 123, wherein the antigen is a viral antigen, a bacterial antigen, a fungal antigen or a parasitic antigen.